

# Checklist of the species of the families Labridae and Scaridae: an update

Paolo Parenti<sup>1</sup> and John E. Randall<sup>2</sup>

<sup>1</sup>University of Milano-Bicocca, Department of Environmental Sciences, Piazza della Scienza, 1, 20126 Milano, Italy. Email: [paolo.parenti@unimib.it](mailto:paolo.parenti@unimib.it)

<sup>2</sup>Bishop Museum, 1525 Bernice St., Honolulu, HI 96817-2704, USA  
Email: [jackr@hawaii.rr.com](mailto:jackr@hawaii.rr.com)

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**ABSTRACT.** The checklist of the species of the families Labridae and Scaridae is updated. After the publication of the annotated checklist (Parenti & Randall 2000) the species of Labridae increased from 453 to 504 and genera from 68 to 70, whereas Scaridae increased from 88 to 99 species. Altogether this account lists 53 species that are new to science, while 14 species have been resurrected from synonymy and 5 are now regarded as junior synonyms. Comments on the status of 20 nominal species and notes on undescribed species are also included.

**RÉSUMÉ.** Le répertoire des espèces des familles des Labridae et des Scaridae est mis à jour. Après la publication du répertoire annoté (Parenti & Randall, 2000), les espèces Labridae ont augmenté de 453 à 504 et les genres de 68 à 70, tandis que les Scaridae sont passées de 88 à 99 espèces.

Dans l'ensemble, ce comptage dénombre 53 espèces qui sont nouvelles à la science, tandis que 14 ont été ressuscitées des synonymes et 5 sont actuellement considérées sous 5 nouveaux synonymes. Le répertoire comprend également des commentaires sur l'état de 20 espèces et des notes d'explication des espèces non encore décrites.

**KEY WORDS:** Labridae, Scaridae, checklist

## INTRODUCTION

Parenti & Randall (2000) published an annotated checklist of the fish families Labridae and Scaridae. They recognized 68 genera and 453 species of labrids, and 10 genera and 88 species of scarids. They did not include the family Odacidae because it was well revised by Gomon & Paxton (1986), and no systematic changes in the family have been published.

Systematic research on labrid and scarid fishes has continued at a surprising pace. Since the publication of the checklist in 2000, 48 new species of Labridae and four new species of Scaridae have been described. In addition, some species have been resurrected or moved to a different genus, and comments are in order on some old labroid names. We provide these additions and changes here.

In the introduction to our labroid checklist paper, we wrote of disagreement among systematic ichthyologists in recognizing the parrotfish family Scaridae as distinct from the Labridae. It has long been known that the Scaridae is a lineage derived from the Labridae (Schultz 1958), and the two families and the odacids have been classified in the suborder Labroidei (Greenwood *et al.* 1966). Kaufman & Liem (1982), however, proposed that the scarids and odacids be grouped with the

labrids as the single family Labridae. Bellwood (1994) published his phylogenetic study of the parrotfishes, maintained the family status, and revised the generic classification. In an extensive genetic study, Westneat & Alfaro (2005) concluded that the scarids and odacids be grouped with the labrids as one family. We accept the value of such phylogenetic research, and these studies often provide refinement in our classification. However, we do not agree to subsume the Scaridae into the Labridae.

The Labridae has long been recognized as a remarkably diverse family. Structural changes in the skull, in particular the jaws and dentition, has enabled the wrasses to exploit a wide variety of prey from zooplankton and crustacean ectoparasites to fishes and heavy-shelled gastropods and bivalves (Westneat *et al.* 2005). The Scaridae is the labroid lineage with the greatest morphological (and no doubt physiological) alteration. Parrotfishes are omnivores, in strong contrast to the carnivorous wrasses. In addition, they exploit a trophic resource denied to the browsing and grazing herbivorous fishes. With their strong dental plates and powerful jaws, they are able to scrape the stubble of algae and associated bacterial and small animal life that remain after the herbivorous fishes, such as kyphosids, acanthurids, and siganids, have grazed to their limit. As the parrotfishes graze,

they bite into the limestone of the reef and grind the coral rock fragments to sand in their unique pharyngeal mill, thus triturating the plant and other food material to make it more digestible. Some of the larger species readily scrape live coral, thereby ingesting both coral polyps and the coral's zooxanthellae. Scarid fishes also have the very long digestive tract typical of herbivorous fishes. In our view, they have clearly evolved to the family level, as long accepted. Regional fish faunal books continue to recognize these fishes as a family, as does Nelson (2006) in the fourth edition of *Fishes of the World*, and Eschmeyer in his updated, on-line *Catalog of Fishes*.

Barber & Bellwood (2004) published a molecular phylogenetic study of *Halichoeres*, the largest labrid fish genus. They sampled 35 of the 72 species, including six western Atlantic species, four eastern Pacific species and 25 Indo-Pacific species. They wrote, "Taxonomic revisions based exclusively upon molecular data are inappropriate and beyond the scope of this paper." They added, "the results clearly show that the molecular data are not concordant with the present taxonomy." Surprising was finding species of *Coris* nesting within their phylogenetic tree, suggesting that it also is polyphyletic. Bellwood (pers. comm.) admitted that the *Coris* results seem illogical and bear repeating. We concur that *Halichoeres* should be divided into several genera from a molecular standpoint. However, external morphological characters, including those of jaw and pharyngeal dentition, have not been found for such a division. If the genus were divided, *Halichoeres* would remain with the type species *H. zeylonicus* (Bennett) and its close relative *H. hartzfeldii* (Bleeker).

Kuiter (2010) privately printed a book on the Labridae in which he named six new genera and resurrected six other labrid generic synonyms based on the molecular study of Barber & Bellwood (2004). We do not accept this proliferation of labrid genera that lack morphological support.

Bernardi *et al.* (2004) published a molecular study of the genera *Thalassoma* and *Gomphosus*. The two Indo-Pacific species of *Gomphosus* nest within the genus *Thalassoma* in their Fig. 2. This was not surprising when one realizes that the long snout is the only external morphological feature to distinguish the genera, that juveniles of *Gomphosus* lack the long snout (indeed, *Thalassoma stuckiae* Whitley proved to be a juvenile of *Gomphosus varius*), and Randall & Allen (2004) reported a hybrid of *Gomphosus varius* and *Thalassoma lunare*. Bernardi *et al.* did not conclude that *Gomphosus* is an invalid genus.

## RESULTS

The number of species currently recognized in labrid genera is listed in Table 1. Thirty genera are monotypic, whereas about 49% of the species are included in only six genera (*Halichoeres*, *Cirrhilabrus*, *Bodianus*, *Thalassoma*, *Coris*, and *Choerodon*). Since 2000, forty-eight new species have been described and eight are resurrected from synonymy, whereas four nominal species previously regarded as valid are now junior synonyms and one (*Xyrichtys javanicus* from Red Sea) is presently regarded as doubtful. This brings the total number of species since the previous checklist from 453 to 504. In addition, a new monotypic genus (*Novaculoides*) has been described and a new genus (*Iniistius*) has been resurrected from synonymy, thus bringing the total number of genera from 68 to 70. The species composition of Scaridae also changed with four new species and six species resurrected from synonymy; the total number of scarid species is now 99 (Table 2).

The valid genera and species are arranged alphabetically for each family. Only genera whose species composition changed since the annotated checklist are listed, and only species not listed in the previous checklist or nominal species that have changed their status are reported. Additional comments on nominal species now recognized as new synonyms, are included at the end of the checklist. The format adopted in Parenti and Randall (2000) is followed.

### FAMILY LABRIDAE CUVIER 1816

#### Genus *Bodianus* Bloch

Parenti and Randall listed 32 valid species. The genus has been recently revised by Gomon (2006) and now includes 43 species, of which 10 have been described as new, and one has been elevated from subspecies to species level.

#### *Bodianus albotaeniatus* (Valenciennes)

*Cossyphus albo-taeniatus* Valenciennes, in Cuvier & Valenciennes 1839, p. 141 (Sandwich Islands = Hawaiian Islands).

*Crenilabrus modestus*: Garrett 1864, p. 106, Sandwich Islands (Hawaiian Islands).

*Lepidaplois strophodes*: Jordan & Evermann 1903, p. 190 (Honolulu market).

*Lepidaplois richardsoni*: Fowler 1908, p. 433, fig. 7 (Victoria, Hawaiian Islands ?, see Gomon & Randall 1978).

*Lepidaplois atrorubens*: E.K. Jordan 1925, p. 23, pl. 1, fig. 3 (Honolulu market).

Table 1. Number of species recognised in genera of Labridae

Genus	No. spp	Genus	No. spp	Genus	No. spp
1. <i>Acantholabrus</i>	1	25. <i>Gomphosus</i>	2	49. <i>Parajulis</i>	1
2. <i>Achoerodus</i>	2	26. <i>Halichoeres</i>	80	50. <i>Pictilabrus</i>	3
3. <i>Ammolabrus</i>	1	27. <i>Hologymnosus</i>	4	51. <i>Polylepion</i>	2
4. <i>Anampses</i>	13	28. <i>Hemigymnus</i>	2	52. <i>Pseudocheilinos</i>	1
5. <i>Anchichoerops</i>	1	29. <i>Iniistius</i>	19	53. <i>Pseudocheilinus</i>	7
6. <i>Austrolabrus</i>	1	30. <i>Labrichthys</i>	1	54. <i>Pseudocoris</i>	6
7. <i>Bodianus</i>	43	31. <i>Labroides</i>	5	55. <i>Pseudodax</i>	1
8. <i>Centrolabrus</i>	3	32. <i>Labropsis</i>	6	56. <i>Pseudojuloides</i>	11
9. <i>Cheilinus</i>	7	33. <i>Labrus</i>	4	57. <i>Pseudolabrus</i>	11
10. <i>Cheilio</i>	1	34. <i>Lachnolaimus</i>	1	58. <i>Pteragogus</i>	7
11. <i>Choerodon</i>	24	35. <i>Lappanella</i>	2	59. <i>Semicossyphus</i>	3
12. <i>Cirrhilabrus</i>	46	36. <i>Larabicus</i>	1	60. <i>Stethojulis</i>	10
13. <i>Clepticus</i>	3	37. <i>Leptojulis</i>	5	61. <i>Suezichthys</i>	10
14. <i>Conniella</i>	1	38. <i>Macropharynodon</i>	10	62. <i>Symphodus</i>	10
15. <i>Coris</i>	26	39. <i>Malapterus</i>	1	63. <i>Tautoga</i>	1
16. <i>Ctenolabrus</i>	1	40. <i>Minilabrus</i>	1	64. <i>Tautogolabrus</i>	1
17. <i>Cymolutes</i>	3	41. <i>Nelabrichthys</i>	1	65. <i>Terelabrus</i>	1
18. <i>Decodon</i>	4	42. <i>Notolabrus</i>	7	66. <i>Thalassoma</i>	28
19. <i>Diproctacanthus</i>	1	43. <i>Novaculichthys</i>	1	67. <i>Wetmorella</i>	3
20. <i>Doratonotus</i>	1	44. <i>Novaculoides</i>	1	68. <i>Xenojulis</i>	1
21. <i>Dotalabrus</i>	2	45. <i>Ophthalmolepis</i>	1	69. <i>Xiphocheilus</i>	1
22. <i>Epibulus</i>	2	46. <i>Oxycheilinus</i>	9	70. <i>Xyrichthys</i>	15
23. <i>Eupetrichthys</i>	1	47. <i>Oxyjulis</i>	1		
24. <i>Frontilabrus</i>	1	48. <i>Paracheilinus</i>	16	<b>Total species</b>	504

**DISTRIBUTION:** This species is restricted to the Hawaiian Islands and Johnston Island in the central Pacific Ocean.

**REMARKS:** Gomon & Randall (1978) recognized *B. alboteniatus* as a subspecies of *B. bilunulatus*, deciding to highlight the extremely close relationship of three taxonomically distinct, allopatric populations. Gomon (2006), however considers these populations to represent separate species. *Bodianus alboteniatus* is separated from each of its two sibling species by 3200–4000 km.

#### *Bodianus bathycapros* Gomon

*Bodianus bathycapros* Gomon 2006: 39, figs. 22–23 (Nihoa, Hawaiian Islands).

**DISTRIBUTION:** restricted to deep water (165–256 m) of the Hawaiian Islands.

#### *Bodianus bilunulatus* (Lacepède)

*Labrus bilunulatus* Lacepède, 1802, p. 454 [le grande Océan équatorial (Mauritius?)].

**DISTRIBUTION:** from the east coast of Africa in the western Indian Ocean eastward to Japan, the Philippines and New Caledonia.



***Bodianus busellatus* Gomon**

*Bodianus busellatus* Gomon 2006: 79, figs. 47, 49 (Fatu Hiva, Marquesas Islands).

**DISTRIBUTION:** Fatu Hiva and Nuku Hiva, Marquesas Islands (Central Pacific) and Henderson Island and Ducie Atoll in the Pitcairn Group to the southeast.

***Bodianus dictynna* Gomon**

*Bodianus dictynna* Gomon 2006: 59, figs. 1c, 5d, 37–38 (Guadalcanal, Solomon Islands).

**DISTRIBUTION:** Tropical western Pacific from the eastern coasts of the Indo–Malaysian Archipelago to Japan, Palau, western Micronesia, Samoa, Tonga and southeastern Australia. Also from offshore islands of northwestern Western Australia and the southern coasts of eastern Indonesia.

***Bodianus flavifrons* Gomon**

*Bodianus flavifrons* Gomon 2001: 411, figs. 2–3 Sud Iles–des–Pins, New Caledonia, 22°58.5'S, 167°16.5'E, 320–340 m.

**DISTRIBUTION:** New South Wales, Lord Howe Island, New Caledonia, and Kermadec Islands.

***Bodianus flavipinnis* Gomon**

*Bodianus flavipinnis* Gomon 2001: 408, fig. 1 (off Ulladulla, New South Wales).

**DISTRIBUTION:** Southeastern Australia and New Zealand.

***Bodianus neoperularis* Gomon**

*Bodianus neoperularis* Gomon 2006: 28, figs. 15–16 (Kwajalein Atoll, Marshall Islands)

**DISTRIBUTION:** known only from the type locality, but no doubt more broadly distributed; collected on vertical drop-offs at a depth of 50 m.

***Bodianus paraleucosticticus* Gomon**

*Bodianus paraleucosticticus* Gomon 2006: 52, figs. 32–33 (Boia Boia Wagai, Milne Bay Province, Papua New Guinea).

**DISTRIBUTION:** Papua New Guinea, Rarotonga and a photo taken in New Caledonia

***Bodianus rubrisos* Gomon**

*Bodianus rubrisos* Gomon 2006: 53, figs. 32, 34 (Singaraja fish market; Bali, Indonesia)

**DISTRIBUTION:** Bali, Japan, and Taiwan

***Bodianus sepiacaudus* Gomon**

*Bodianus sepiacaudus* Gomon 2006: 33, figs. 16, 19 (Bali, Indonesia)

*Smithiana* Bulletin 13: 29–44

**DISTRIBUTION:** Indonesia from Bali, Sulawesi and Flores; Fiji; and Kiribati Atoll, Line Islands in the Central Pacific.

***Bodianus solatus* Gomon**

*Bodianus solatus* Gomon 2006: 90, figs. 7c, 54–55 (Western Australia, north of Cape Lambert).

**DISTRIBUTION:** western coast of Australia between the Monte Bello Islands and the Houtman Abrolhos.

**Genus *Choerodon* Bleeker**

One new species has been described in this genus which now contains 24 species.

***Choerodon gomoni* Allen & Randall**

*Choerodon gomoni* Allen & Randall 2002: 110, figs. 1–2 (Chesterfield Bank, Coral Sea)

**DISTRIBUTION:** Coral Sea and Indonesia.

**Genus *Cirrhilabrus* Temminck & Schlegel**

The second largest genus with 46 species. Ten new species were added since the previous checklist. Kuiter (2002: 24) is responsible for recognizing *lyukyuensis* as a valid name. On p. 24 he gave the distribution of *lyukyuensis* as southern to northern Indonesia. He meant to say southern Japan to northern Indonesia. The type locality of *lyukyuensis* is the Ryukyu Islands. Photos suggest a clinal picture; therefore one might use *lyukyuensis* as a northern subspecies of *Cirrhilabrus cyanopleura*. A DNA study of this complex of species of *Cirrhilabrus* is needed.

***Cirrhilabrus beauperryi* Allen, Drew & Barber**

*Cirrhilabrus beauperryi* Allen, Drew & Barber 2008: 132, figs. 1–4 (Kwato Island, Papua New Guinea)

**DISTRIBUTION:** Papua New Guinea, Bismarck Archipelago and Solomon Islands.

***Cirrhilabrus bathyphilus* Randall & Nagareda**

*Cirrhilabrus bathyphilus* Randall & Nagareda 2002: 124, fig. 1 (Holmes Reef, Coral Sea).

**DISTRIBUTION:** Coral Sea, in 60–217 m.

***Cirrhilabrus brunneus* Allen**

*Cirrhilabrus brunneus* Allen 2006: 2, fig. 1 (Kaniunga Besar Island, Kalimantan, Indonesia).

**DISTRIBUTION:** Indonesia (Kalimantan and Nusa Penida, near Bali) and Philippines (Allen, pers. comm.).

*Cirrhilabrus cenderawasih* Allen & Erdmann

*Cirrhilabrus cenderawasih* Allen & Erdmann 2006: 126, figs. 1–2 (Cenderawasih Bay, Irian Java, Indonesia).

DISTRIBUTION: known only from Cenderawasih Bay, West Papua and Papua New Guinea.

*Cirrhilabrus claire* Randall & Pyle

*Cirrhilabrus claire* Randall & Pyle 2001: 90, fig. 1 (Rarotonga, Cook Islands).

DISTRIBUTION: known only from the type locality from a depth range of 55–100 m.

*Cirrhilabrus earlei* Randall & Pyle

*Cirrhilabrus earlei* Randall & Pyle 2001: 93, fig. 2 (Blue Hole, Ngemelis Island, Palau).

DISTRIBUTION: known only from Palau from a depth range of 60–92 m.

*Cirrhilabrus joanallenae* Allen

*Cirrhilabrus joanallenae* Allen 2000: 47, fig. 1 (Weh Island, Aceh Province, Sumatra, Indonesia).

DISTRIBUTION: known from off the northwestern tip of Sumatra and Andaman Islands (Allen, pers. comm.).

*Cirrhilabrus marjorie* Allen, Randall & Carlson

*Cirrhilabrus marjorie* Allen, Randall & Carlson 2003: 114, figs. 1–3 (Fiji).

DISTRIBUTION: Fiji.

*Cirrhilabrus naokoae* Randall & Tanaka

*Cirrhilabrus naokoae* Randall & Tanaka 2009: 30, figs. 1–3, 7 (vicinity of Medan, Sumatra).

DISTRIBUTION: Sumatra.

*Cirrhilabrus walshi* Randall & Pyle

*Cirrhilabrus walshi* Randall & Pyle 2001: 95, figs. 3, 4 (Taumu Bank, north of Tutuila, American Samoa).

DISTRIBUTION: known only from the type locality from a depth of 37–45 m.

Genus *Clepticus* Cuvier

The genus contains three species, two of which were described in a paper by Heiser et al. (2000) published few weeks after the annotated checklist

*Clepticus africanus* Heiser, Moura & Robertson

*Clepticus* sp. 2: Parenti & Randall 2000: 13.

*Clepticus africanus* Heiser, Moura & Robertson 2000:

69, figs. 1, 2a, 2b, 6 (north coast of São Tomé, Gulf of Guinea).

DISTRIBUTION: Democratic Republic of São Tomé and Príncipe and possibly the other islands of the Guinea Archipelago.

*Clepticus brasiliensis*

Heiser, Moura & Robertson

*Clepticus* sp. 1: Parenti & Randall 2000: 13.

*Clepticus brasiliensis* Heiser, Moura & Robertson 2000: 71, figs. 3, 4a, 4b, 5, 6 (Ilha Escalvada, Guarapari, off the coast of Espírito Santo, Brazil).

DISTRIBUTION: from Recife Manuel Luis (0°52'S, 44°15'W) to the coastal islands of São Paulo State, southeastern Brazil; also from the archipelago Fernando de Noronha.

Genus *Epibulus* Cuvier

The genus includes two species. The genus was formerly regarded as consisting of one Indo-Pacific species, *Epibulus insidiator*; a second species has now been described.

*Epibulus brevis* Carlson, Randall & Dawson

*Epibulus* sp. 1: Parenti & Randall 2000: 22.

*Epibulus brevis* Carlson, Randall & Dawson 2008: 477, figs. 1, 2 (Palau).

DISTRIBUTION: Palau, Luzon and Cebu Provinces in the Philippines, Papua New Guinea, and Sulawesi, Bali, Lombok, and Flores in Indonesia; Solomon Islands.

Genus *Halichoeres* Rüppell

The genus contains 80 valid species: fourteen species have been added to the previous checklist, of which ten are described as new, one was omitted, and three have been resurrected. The results of a molecular phylogenetic study (Barber & Bellwood 2005) strongly reject the hypothesis of monophyly of *Halichoeres*. The analysis reveals three major 'Halichoeres' clades. Although taxonomic revisions based exclusively upon molecular data are inappropriate, these studies may stimulate ichthyologists to search for morphological traits to support the separation of this genus into three or more genera. *Halichoeres lamarii* has been listed in synonymy with *H. marginatus*, whereas it is regarded as valid by Adrim et al. (2004: 124) and Fricke et al. (2009: 86). The male of *H. marginatus* in Arabian waters is a little different in colour from elsewhere in the Indo-Pacific. Some authors, such as Kuiter (2002: 132) prefer to regard *H. marginatus* as restricted to the seas around the Arabian Peninsula, whereas others such as Lieske & Myers (2004: 159) consider *H. marginatus* as one widespread Indo-Pacific species. A DNA

comparison might resolve this issue. *Halichoeres kneri* has been regarded as valid by Kuitert (2002: 112) and Allen & Adrim (2003: 49). However, the rose pink bands behind the eye and row of white spots on the body are the same as *H. nigrescens*. Allen & Adrim (2003: 49), following Kuitert (2002: 119), regarded *H. chrysotaenia* as valid. Bleeker (1862) placed his *chrysotaenia* into synonymy of *H. melanurus*, and we follow Bleeker. *Halichoeres hyrtlui* has been listed as valid by Westneat (2001: 3401) but without documentation. We also continue to regard *H. kneri* Bleeker as a synonym of *H. nigrescens*.

#### *Halichoeres brasiliensis* (Bloch)

*Labrus brasiliensis* Bloch 1791: 125, pl. 280 (Brazil).  
*Julis principis*: Valenciennes 1839: 402 (Bahia, Brazil).

*Halichoeres irideus*: Starks 1913: 60, pl. 8 (Natal, Brazil).

DISTRIBUTION: off coast of Brazil.

REMARKS: previously regarded as a synonym of *H. radiatus*; resurrected by Rocha & Rosa (2001).

#### *Halichoeres burekai* Weaver & Rocha

*Halichoeres burekai* Weaver & Rocha 2007: 800, figs. 1–2 (Stetson Bank, Gulf of Mexico).

DISTRIBUTION: Flower Garden Banks National Marine Sanctuary and reefs off Veracruz, Mexico, western Gulf of Mexico.

#### *Halichoeres claudia* Randall & Rocha

*Halichoeres claudia* Randall & Rocha 2009: 713, figs. 8–13 (Moorea, Society Islands).

DISTRIBUTION: Line Islands and islands of French Polynesia to the western Pacific, where reported from the Great Barrier Reef, New Caledonia, Vanuatu, and Indonesia. The species is also found in the eastern Indian Ocean at Christmas Island, the Cocos-Keeling Islands.

#### *Halichoeres dimidiatus* Agassiz

*Julis dimidiatus* Agassiz in Spix & Agassiz 1831: 96, pl. 53 (Atlantic off Brazil).

DISTRIBUTION: French Guiana to Brazil.

REMARKS: Synonym of *Halichoeres cyanocephalus* (Bloch 1791) in Parenti & Randall 2000: 20. Valid as *Halichoeres dimidiatus* Agassiz 1831 (Rocha 2004).

#### *Halichoeres erdmanni* Randall & Allen

*Halichoeres erdmanni* Randall & Allen 2010: 283, figs. 4–7 (Ogar Island, Fak Fak Peninsula, West Papua, Indonesia).

*Halichoeres javanicus* (non Bleeker 1857): Kuitert 2002: 115, figs. A, C, and D (Singapore).

DISTRIBUTION: northern Gulf of Thailand, Singapore, and Berau Bay, West Papua, Indonesia.

#### *Halichoeres hilomeni* Randall & Allen

*Halichoeres hilomeni* Randall & Allen 2010: 286, figs. 8–12 (Dibuluan Island, Palawan Province, Philippines).

*Halichoeres exornatus* (non Richardson, 1846): Kuitert 2002: 115, figs. A, B. Philippines and Sabah.

DISTRIBUTION: Philippines south to Borneo.

#### *Halichoeres orientalis* Randall

*Halichoeres orientalis* Randall 1999: 295, figs. 1–5 (Sesoki Island, Okinawa, Ryukyu Islands, Japan).

DISTRIBUTION: southern Japan and Taiwan.

REMARKS: this species corresponds to the undescribed species labeled as *Halichoeres* sp. 1 in Parenti & Randall (2000). The name was inadvertently omitted from the annotated checklist.

#### *Halichoeres penrosei* Starks

*Halichoeres penrosei* Starks 1913: 59, pl. 7 (tide pool at Natal, Brazil).

DISTRIBUTION: Southeastern Brazil, including Trindade Island.

REMARKS: Synonym of *Halichoeres maculipinna* (Müller & Troschel 1848) — (Parenti & Randall 2000: 21). Valid as *Halichoeres penrosei* Starks, 1913 (Rocha 2004).

#### *Halichoeres raisneri* Baldwin & McCosker

*Halichoeres raisneri* Baldwin & McCosker 2001: 93, figs. 4–5 (southwestern Wolf Island, Galápagos Islands.).

DISTRIBUTION: Galápagos Islands.

#### *Halichoeres rubrovirens* Rocha, Pinheiro & Gasparini

*Halichoeres rubrovirens* Rocha, Pinheiro & Gasparini 2010: 23, figs. 1–5 (Calhetas Reef, Trindade Island, Brazil).

DISTRIBUTION: Trindade and Martin Vaz Island group, 1200 km east of the southeastern Brazilian coast

#### *Halichoeres salmofasciatus* Allen & Robertson

*Halichoeres salmofasciatus* Allen & Robertson 2002: 67, figs. 1–3 (Isla del Coco).

DISTRIBUTION: Isla del Coco, Costa Rica.

#### *Halichoeres sazimai* Luiz, Ferreira & Rocha

*Halichoeres sazimai* Luiz, Ferreira & Rocha 2009: 38,



figs. 1, 2C–D, 3A–B, 4–6 (Ilha de Cabo Frio, Rio de Janeiro State, southeastern Brazil).

**DISTRIBUTION:** coasts of Brazil from Espírito Santo to Santa Catarina States.

*Halichoeres socialis* Randall & Lobel

*Halichoeres socialis* Randall & Lobel 2003: 125, figs. 1–3 (Belize).

**DISTRIBUTION:** off Belize.

*Halichoeres zulu* Randall & King

*Halichoeres socialis* Randall & King 2010: 19, fig. 1, pl. 1 A, G–J (KwaZulu–Natal, South Africa).

**DISTRIBUTION:** off KwaZulu–Natal, but it should range at least to southern Mozambique.

Genus *Iniistius* Gill

*Iniistius* Gill 1862: 143 (type species, *Xyrichtys pavo* Valenciennes, by original designation).

*Duohemipteronotus* Fowler 1956:281. (type species, *Hemipteronotus evides* Jordan & Richardson, by original designation).

*Iniistius* is now recognized as a separate genus, distinct from *Xyrichtys* (Randall & Earle 2002; Randall et al. 2002). Nineteen species are included in the genus: *I. aneitensis*, *I. auropunctatus*, *I. baldwini*, *I. bimaculatus*, *I. celebicus*, *I. cyanifrons*, *I. dea*, *I. evides*, *I. geisha*, *I. griffithsi*, *I. jacksonensis*, *I. melanopus*, *I. pavo*, *I. pentadactylus*, *I. spilonotus*, *I. trivittatus*, *I. twistii*, *I. umbrilatus*, and *I. verrens*. Most species were previously placed in the genus *Xyrichtys*. *Iniistius auropunctatus* and *I. griffithsi* were described as new, while *I. evides* and *I. spilonotus* were resurrected from the synonymy of *I. baldwini* and *I. melanopus*, respectively. Recently, Allen & Adrim (2003: 50) listed *I. tetrazona* (Bleeker 1859) as an Indonesian endemic. Examination of syntypes of *I. tetrazona* in museums in Europe showed that *tetrazona* is the juvenile of *I. pavo* (Randall & Earle 2002). *Iniistius niger* (Steindachner 1900), regarded as valid species of *Xyrichtys* in Parenti & Randall (2000: 49), was shown to be a colour morph of *Iniistius pavo* by Randall & Earle (2002: 396). *Xyrichtys niveilatus* Jordan & Evermann 1903, wrongly regarded as a synonym of *Xyrichtys martinicensis* (Valenciennes 1840) by Parenti & Randall (2000: 49), is a synonym of *Iniistius aneitensis* (Günther 1862) (Randall & Earle 2002: 392).

*Iniistius auropunctatus* Randall,  
Earle & Robertson

*Iniistius auropunctatus* Randall, Earle & Robertson 2002: 94, figs. 1–4 (Ua Pou, Marquesas Islands).  
**DISTRIBUTION:** known only from the type locality.

*Iniistius evides* (Jordan & Richardson)

*Hemipteronotus evides* Jordan & Richardson 1909: 196, pl. 72 (Takao, Taiwan).

*Hemipteronotus maculosus*: Fourmanoir 1967: 269, fig. 2 (Vietnam).

**DISTRIBUTION:** Southern Japan and Taiwan south at least to peninsular Malaysia at 3° N.

**REMARKS:** previously regarded as synonym of *I. baldwini*, new evidences have been reported which confirm it is a valid species (Randall & Johnson, 2008)

*Iniistius griffithsi* Randall

*Iniistius griffithsi* Randall 2007a: 10, figs. 1–3 (South coast of Mauritius).

**DISTRIBUTION:** Mauritius, Madagascar and Christmas Island, Indian Ocean.

*Iniistius spilonotus* (Bleeker)

*Novacula spilonotus* Bleeker 1857: 83 (Ambon, Molucca Islands, Indonesia).

**DISTRIBUTION:** Indonesia.

**REMARKS:** previously regarded as a synonym of *Xyrichtys melanopus* (Parenti & Randall, 2000: 49).

Genus *Novaculichthys* Bleeker

The genus contains a single species, *N. taeniourus* (Lacepède 1801).

*Novaculichthys woodi*, previously regarded as valid species of *Novaculichthys* (Parenti & Randall 2000: 32), is now placed in *Xyrichtys* (Randall & Allen 2004). *Xyrichtys perlas*, previously regarded as a valid species of *Novaculichthys* (Parenti & Randall 2000: 32) is now a junior synonym of *Xyrichtys mundiceps* Gill, 1862 (Victor et al. 2001: 106). *Labrus macrolepidotus* is reclassified in the new genus *Novaculoides*.

Genus *Novaculoides* Randall

*Novaculoides* Randall & Earle 2004: 39 (type species, *Labrus macrolepidotus* Bloch, by original designation).

The genus is monotypic.

*Novaculoides macrolepidotus* (Bloch)

*Labrus macrolepidotus* Bloch 1791: 135, pl. 284, fig. 2 (no locality).

*Labrus arago*: Quoy & Gaimard 1824: 263, pl. 65, fig. 2 (Iles des Papous).

*Julis taenianotus*: Cuvier in Quoy & Gaimard 1824: 271 (Waigeo, Indonesia).

*Julis trimaculata*: Valenciennes 1839: 386 (no locality; preoccupied by *Julis trimaculata* Quoy & Gaimard 1834 [= *Halichoeres trimaculatus*]).  
*Novacula julioides*: Bleeker 1851b: 354 (Indonesia).  
**DISTRIBUTION**: Indian Ocean to Mariana Islands.

### Genus *Oxycheilinus* Gill

The genus comprises nine species: two new species have been described recently, and *O. rhodochrous*, recognized as valid by Parenti & Randall (2000: 33) is now a junior synonym of *O. orientalis* (Randall & Khalaf 2003: 136).

#### *Oxycheilinus lineatus* Randall, Westneat & Gomon

*Oxycheilinus* sp. 4: Parenti & Randall 2000: 33.  
*Oxycheilinus lineatus* Randall, Westneat & Gomon 2003: 362, pl. 1 (fig. A) (Rarotonga, Cook Islands).

**DISTRIBUTION**: Cook Islands, Tahiti, Austral Island, and Henderson Island.

#### *Oxycheilinus nigromarginatus* Randall, Westneat & Gomon

*Oxycheilinus nigromarginatus* Randall, Westneat & Gomon 2003: 365, pl. 1 (figs. C–E) (Chesterfield Bank, Coral Sea).

**DISTRIBUTION**: Coral Sea.

### Genus *Paracheilinus* Fourmanoir

Three new species have been recently described, bringing the total number of species to fifteen.

#### *Paracheilinus nursalim* Allen & Erdmann

*Paracheilinus nursalim* Allen & Erdmann 2008: 181, figs. 2–4 (Triton Bay, Papua Barat Province, West Papua).

**DISTRIBUTION**: southwestern New Guinea.

#### *Paracheilinus rubricaudalis* Randall & Allen

*Paracheilinus rubricaudalis* Randall & Allen 2003: 106, figs. 2–4 (Fiji)

**DISTRIBUTION**: Fiji, Manus, Papua New Guinea, Vanuatu, and northern Coral Sea (Allen, pers. comm.).

#### *Paracheilinus walton* Allen & Erdmann

*Paracheilinus walton* Allen & Erdmann 2006: 14, figs. 1–3 (Cenderawasih Bay, West Papua, Indonesia).

**DISTRIBUTION**: known only from the type locality.

### Genus *Pseudocoris* Bleeker

One new species has been described, bringing the total number in the genus to six. *Pseudocoris philippina* (Fowler & Bean 1928) has been regarded by some authors as valid. Randall & Walsh (2008) showed that *P. philippina* is the female of *P. bleekeri* (Hubrecht 1876).

#### *Pseudocoris aequalis* Randall & Walsh

*Pseudocoris aequalis* Randall & Walsh 2008: 53, figs. 18–21 (Holmes Reef, Coral Sea).

**DISTRIBUTION**: known only from type locality, but expected at other reefs and islands in the Coral Sea, as well as the Great Barrier Reef.

### Genus *Tautogolabrus*

A monotypic genus containing the species *Tautogolabrus adspersus*.

A second species, *Ctenolabrus brandaonis*, was listed as valid species of the genus (Parenti & Randall 2000: 44). The holotype of *C. brandaonis* (NMW 22794) was recently compared by the first author to a series of specimens of *T. adspersus* and determined as the same species. Therefore, *C. brandaonis* is here regarded as junior synonym of *T. adspersus*.

### Genus *Thalassoma* Swainson

With one new species and one resurrected from synonymy, the genus now includes 28 species.

#### *Thalassoma newtoni* (Osório)

*Julis newtoni* Osório 1891: 127 (São Thomé [Tome] Island, West Africa).

**DISTRIBUTION**: endemic to São Thomé Island, Eastern Atlantic.

**REMARKS**: previously regarded as a synonym of *Thalassoma ascensionis* (Parenti & Randall 2000: 44). There is now evidence that *T. newtoni* represents a valid species (Costagliola et al. 2004).

#### *Thalassoma nigrofasciatum* Randall

*Thalassoma nigrofasciatum* Randall 2003: 3, figs. 1–3 (Lord Howe I.)

**DISTRIBUTION**: Coral Sea to New Caledonia, Fiji and Tonga.

### Genus *Wetmorella* Randall & Kuiter

The genus now includes three species.

#### *Wetmorella tanakai* Randall & Kuiter

*Wetmorella tanakai* Randall & Kuiter 2007: 2, figs. 1–2 (Flores, Indonesia).



Table 2. Number of species recognised in the genera of Scaridae

Genus	No. spp	Genus	No. spp
1. <i>Bolbometopon</i>	1	7. <i>Leptoscarus</i>	1
2. <i>Calotomus</i>	5	8. <i>Nicholsina</i>	3
3. <i>Cetosaurus</i>	2	9. <i>Scarus</i>	52
4. <i>Chlorurus</i>	18	10. <i>Sparisoma</i>	14
5. <i>Cryptotomus</i>	1		
6. <i>Hipposcarus</i>	2	Total species	99

**DISTRIBUTION:** Indonesia.  
**REMARKS:** in the revision of the genus *Wetmorella*, Randall (1983) regarded *W. triocellata* Schultz & Marshall as a young stage of *W. nigropinnata*. Kuitert (2002) illustrated a 38 mm specimen from Flores that he believed to be *W. triocellata*, but his specimen represented the new species of *W. tanakai*.

Genus *Xyrichtys* Cuvier

Fifteen species previously included in this genus are currently placed in genus *Inistius*. The record of *Xyrichtys javanicus* described by Bleeker from Indonesia is doubtful (Randall et al. 2008). The Hebrew University specimen from the Red Sea that was identified as *X. javanicus* probably represents a new species of *Xyrichtys*. Three new species (*X. halsteadi*, *X. koteamea*, and *X. pastellus*) have been described, and one (*X. sciistius*) resurrected (Randall et al. 2008). The remaining species are: *X. blanchardi*, *X. incandescens*, *X. martinicensis*, *X. mundiceps*, *X. novacula*, *X. rajagopalami*, *X. sanctaehelenae*, *X. splendens*, *X. victori*, *X. wellingtoni*, and *X. woodi*.

*Xyrichtys halsteadi* Randall & Lobel

*Xyrichtys halsteadi* Randall & Lobel 2003: 972, figs. 1–3 (D’Entrecasteaux Islands, Papua New Guinea).  
**DISTRIBUTION:** Papua New Guinea and northeastern Kalimantan and Halmahera, Indonesia (Allen, pers. comm.).

*Xyrichtys koteamea* Randall & Allen

*Xyrichtys koteamea* Randall & Allen 2004: 253 (Easter Island).  
**DISTRIBUTION:** Easter Island.

*Xyrichtys sciistius* Jordan & Thompson

*Xyrichtys sciistius* Jordan & Thompson 1914: 263, pl. 30, fig. 3 (Sagami Bay, Japan).  
**DISTRIBUTION:** Japan.

**REMARKS:** Previously regarded as a junior synonym of *Novaculichthys woodi* Jenkins 1901 (Parenti & Randall 2000: 32) it is currently regarded as valid (Allen & Randall 2004; Randall et al. 2008).

*Xyrichtys pastellus* Randall, Earle & Rocha

*Xyrichtys pastellus* Randall, Earle & Rocha 2008: 150, figs. 1–3 (Lord Howe Island).  
**DISTRIBUTION:** Lord Howe Island and Elizabeth and Middleton Reefs, New South Wales.

FAMILY SCARIDAE RAFINESQUE 1810

Genus *Cetoscarus* Rüppell

The genus contains two species: *C. bicolor* restricted to the Red Sea and *C. ocellatus* from the east coast of Africa to the Society Islands, Tuamotu Archipelago and Micronesia (Randall, 2005).

Genus *Chlorurus* Swainson

Randall (2007b: 362) wrote: “*Chlorurus sordidus* (Forsskål) does not range throughout the Indo-Pacific region. The population in the central and western Pacific is distinct at the species level, taking the oldest name available for a Pacific locality, *Chlorurus spilurus* (Valenciennes), described from the terminal-male phase.” The population break appears to be between the islands of the Indo-Malayan region and those of Oceania. The supporting DNA evidence (Choat et al. MS) has still not been published. With the addition of *C. spilurus*, the genus *Chlorurus* is now represented by 18 valid species.

Genus *Nicholsina* Fowler

The genus was previously considered to include two species, *N. denticulata* and *N. usta*, the latter with two subspecies (Parenti & Randall 2000). Recent evidence suggests that there are three distinct species.

*Nicholsina collettei* Schultz

*Nicholsina usta collettei* Schultz 1968: 2, pl. 1 (off Guinea, west Africa, 9°53'N, 15°56'W).

**DISTRIBUTION:** from Senegal to at least Annobón Island off Gabon.

**REMARKS:** The East and West Atlantic populations of *N. usta* were designated as separate subspecies by Schultz (1968) on the basis of minor morphometric differences. Recent data show that these two forms are more divergent genetically than many of the *Sparisoma* species are from each other (Robertson et al. 2006); hence the East and West Atlantic forms represent sister species, *N. collettei* and *N. usta*, respectively.

Genus *Scarus* Forsskål

Changes respect to the annotated checklist include a new species described from the southwestern Atlantic, a second from the Indo-Pacific and a third that has been resurrected. This is the largest genus of the family, comprising 52 species.

*Scarus maculipinna* Westneat, Satapoomin & Randall

*Scarus maculipinna* Westneat, Satapoomin & Randall 2007: 60, figs. 1–3 (Similan Island, Thailand, Andaman Sea).

**DISTRIBUTION:** reefs of Surin Island and the Similan Islands of Thailand, and the Mentawai Islands off the southwest coast of Sumatra. In addition, this species was illustrated in Allen et al. (2003, p. 182, top right) in a photo labeled *S. hypselopterus*, taken by Rudie Kuiter at Pulau Putri, Seribu Islands in the Java Sea, north of Jakarta.

*Scarus trispinosus* Valenciennes

*Scarus trispinosus* Valenciennes in Cuvier & Valenciennes 1840: 182 (Brazil).

**DISTRIBUTION:** coast of Brazil.

**REMARKS:** known only from the dried holotype, Parenti & Randall (2000: 63) placed this nominal species in *incertae sedis*; Moura et al. (2001: 517) regarded this species as valid, based on new material from Brazil.

*Scarus zelindae* Moura, Figueiredo & Sazima

*Scarus zelindae* Moura, Figueiredo & Sazima 2001: 506, fig.1 (Alcatrazes Archipelago, Brazil)

**DISTRIBUTION:** southwestern Atlantic.

Genus *Sparisoma* Swainson

Parenti & Randall (2000) recognized nine species of *Sparisoma*. Five additional species are recognized

(Moura et al. 2001; Feitoza et al. 2003; Gasparini et al. 2003).

*Sparisoma amplum* (Ranzani)

*Scarus amplus* Ranzani 1842: 324, pl. 25 (Brazilian seas).

**DISTRIBUTION:** Brazil, including Fernando de Noronha Archipelago and others oceanic Islands off Brazil.

**REMARKS:** synonym of *Sparisoma viride* (Parenti & Randall 2000: 61); resurrected by Moura et al. (2001:513).

*Sparisoma axillare* Steindachner

*Scarus spinidens* Guichenot 1865: 15 (Bahia, Brazil; preoccupied by *Scarus spinidens* Quoy & Gaimard 1824 [= *Calotomus spinidens* (Quoy & Gaimard)]).

*Scarus (Scarus) axillaris*: Steindachner 1878: 384, pl. 3, fig. 1 ("probably coast of North Australia" [evidently an error]).

**DISTRIBUTION:** Brazil, including Fernando de Noronha Archipelago, Atol das Rocas, and Trindade Island.

**REMARKS:** synonym of *Sparisoma rubripinne* (Parenti & Randall 2000: 61); resurrected by Moura et al. (2001: 515).

*Sparisoma frondosum* Agassiz

*Scarus frondosus* Agassiz, in Spix & Agassiz 1829: 98, pl. 54 (Bahia, Brazil).

**DISTRIBUTION:** southwestern Atlantic, including oceanic islands off Brazil.

**REMARKS:** synonym of *Sparisoma viride* (Parenti & Randall 2000: 61); resurrected by Moura et al. (2001: 510).

*Sparisoma rocha* Pinheiro, Gasparini & Sazima

*Sparisoma rocha* Pinheiro, Gasparini & Sazima 2010: 60, Figs. 1–4, 8 (Ilha de Trindade).

**DISTRIBUTION:** known only from the type locality, southwestern Atlantic.

*Sparisoma tuiupiranga* Gasparini, Joyeux & Floeter

*Sparisoma tuiupiranga* Gasparini, Joyeux & Floeter, 2003: 2, figs. 1–5 (Rasa de Flora Island, Brazil)

**DISTRIBUTION:** Southwestern Atlantic, from the state of Bahia (Abrolhos Archipelago National Marine Park (17°57' S) to the state of Santa Catarina (27°20' S), Brazil.

## NOTES ON SOME NOMINAL SPECIES

In this section comments are provided on nominal species which have been omitted or have been wrongly placed in synonymy in Parenti & Randall's annotated checklist. Type material (when extant) and original descriptions were re-examined. The species are arranged alphabetically according to genus.

## LABRIDAE

*Cheilinus diagrammus* Valenciennes, in Cuvier & Valenciennes 1840: 98 (Mauritius; Seychelles; Madagascar; New Guinea).

Apparently the same as *Labrus digramma* Lacepède 1801, but regarded as independently described. The name is a synonym of *Oxycheilinus digrammus* (Lacepède 1801).

*Choerodonoides japonicus* Kamohara 1958: 2, pl. 1, fig. 1 (Mimase, Kochi Prefecture, Japan).

This nominal species is a junior synonym of *Choerodon gymnogonys* (Playfair & Günther 1867). It was included in the list of nominal species (p. 70) of Parenti & Randall but it was inadvertently omitted in the species account on p. 10.

*Julis blochii* Valenciennes, in Cuvier & Valenciennes 1839: 422 (Indian Ocean).

Previously regarded as a synonym of *Thalassoma hebraicum* (Lacepède 1801) by Parenti & Randall (2000: 45). Examination of type material revealed that *Julis blochii* is a synonym of *Thalassoma pavo* (Linnaeus 1758) (Randall & Bartsch 2004).

*Labroides auropinna* Saville-Kent 1893: 308, colour pl. 16, fig. 9 (Lady Elliot Island, Queensland, Australia). No types known.

Randall (1958) dealt with *Labroides auropinna* in his review of *Labroides*. Saville-Kent made crude colour drawings of two fish he saw in a coral pool on Lady Elliot Island. One that he called *Labroides bicincta* is recognizable as a juvenile of *L. dimidiatus*. Randall wrote, "The figure of *L. auropinna*, a blue fish with yellow fins, fits no known species of *Labroides*." He did not recognize the name, adding that the fish might not be a labrid.

*Labrus dispar* Ekström, in Fries, Ekström & Sundevall 1836–48: 160, pls. 37–38 (Scandinavia).

This nominal species was overlooked by Parenti & Randall (2000). The name appears in a footnote under the account of *Labrus mixtus* (Linnaeus 1758); translation of the Swedish text revealed that the name was suggested by the zoologist Bengt Fredrik Fries (1790–1839) as a new name for *L. mixtus* to avoid confusion existing for its synonyms. *Labrus dispar* is well illustrated in two plates showing a male and a female, respectively.

*Labrus fasciatus* Gronow, in Gray 1854: 80 (Indian Ocean).

No type is known; based on the original description the closest in colour to an Indian Ocean labrid fish is *Thalassoma hardwicke* (Bennett, 1830), but none of the counts are even close, so this species is regarded as unidentifiable.

*Labrus ferrugineus* Linnaeus 1758: 284 (India).

No types is known; described as having two spines in dorsal fin. This nominal species does not appear to be a labrid.

*Labrus flavus* Forster 1771: 21 (No locality stated [Carolinas, U.S.A.]).

The name was based on a Catesby illustration of a fish known as "the hog fish". The illustration fits a species of *Bodianus*, most probably *B. rufus*. Günther (1862: 108) listed *Turdus flavus* Catesby in the synonymy of *Cossyphus rufus*, presently regarded as valid in *Bodianus*. The name was not mentioned by Parenti & Randall or by Gomon (2006) in his recent revision of the genus.

*Labrus linearis* Linnaeus 1758: 287 (Indiis).

With no types known, and described having a dorsal-fin count of XX,1 this nominal species does not fit any known labrid fish.

*Labrus marginalis* Linnaeus 1758: 284 (Pelagic, Ocean).

No types are known and the description gives a dorsal-fin count of 2 spines and 28 rays; therefore this nominal species cannot be identified with any labrid currently known.

*Labrus venosus* Walbaum 1792: 264 (No locality stated). No types known.

Apparently independently described, it is preoccupied by *Labrus venosus* Gmelin 1789; synonym of *Symphodus ocellatus* (Forsskål 1775).

*Lutjanus cinereus* Risso, 1810: 266 (Nice, France).

Regarded by Bauchot *et al.* (1981: 35) as an original description, but not treated by Parenti & Randall (2000). This nominal species is a synonym of *Symphodus cinereus* (Bonnaterre 1788).

*Perca rupestris* Müller 1789: 44, pl. 107 (Norway Sea).

This nominal species is a junior synonym of *Ctenolabrus rupestris* (Linnaeus 1758).

*Platychoerops badius* Ogilby 1893: 134 (off Port Jackson, N.S.W., Australia).

Wrongly regarded as a synonym of *Achoerodus gouldii* (Richardson 1843) by Parenti & Randall 2000: 3; synonym of *Achoerodus viridis* (Steindachner 1866).



*Sparus anonymus* Walbaum 1792: 297 (No locality stated).

Although no type is known, description contains enough information to place this nominal species as a synonym of *Tautoga onitis* (Linnaeus 1758).

*Sparus brunnichii* Shaw, 1803: 462 (Mediterranean Sea).

Based on *Labrus fuscus* Gmelin; junior synonym of *Symphodus mediterraneus* (Linnaeus 1758).

*Stethojulis maculata* Schmidt 1931

The distribution of this species is Japan. Records from Fiji and Norfolk Island are misidentification of *S. notialis*.

*Trochocopus unicolor* Günther 1876: 398 (Sydney, N.S.W., Australia).

Wrongly regarded as a synonym of *Achoerodus gouldii* (Richardson 1843) (Parenti & Randall 2000: 3). It is a junior synonym of *Achoerodus viridis* (Steindachner 1866).

*Xiphochilus quadrimaculatus* Günther 1880: 45, pl. 20, fig. C (Arafura Sea).

This name was wrongly regarded as valid (Parenti & Randall 2000: 48); it is a synonym of *Xiphocheilus typus* Bleeker, 1857.

*Xiphocheilus typus* Bleeker 1857: 224 (Nias Island, Indonesia).

Wrongly regarded as junior synonym of *Xiphocheilus quadrimaculatus* (Günther 1880) (Parenti & Randall 2000: 48); valid as *Xiphocheilus typus* Bleeker 1857.

## SCARIDAE

*Calotomus cyclurus* Jenkins 1903

Parenti & Randall wrongly included the Hawaiian Islands in the distribution of this invalid species. The description by Jenkins was based on a specimen believed to be from Honolulu, but it was from Japan. Bruce & Randall (1985) reported it as a synonym of the Japanese species *C. japonicus* (Valenciennes).

*Pseudoscarus jonesi* Streets 1877

A synonym of *Chlorurus frontalis*; the type locality was reported as Palmyra I., Hawaiian Is., U.S.A. (Parenti & Randall 2000: 52). Palmyra is an atoll in the Line Islands, not the Hawaiian Islands.

*Pseudoscarus troscheli* var. *flavoguttata* Steindachner 1882 (Gilbert Islands).

The first author examined the holotype (NMW 72975) and concluded that it as a synonym of *Chlorurus sordidus* (Forsskål 1775).

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